PART XIX.—FUEL AND FODDER RESERVES.

1. Government do not approve of the principle of giving grass kurans to the Police. (G. R. No. 4078, dated 23rd November 1867.)

2. The Forest Conservators are throughout the Presidency to be allowed, subject to the approval of the Commissioners, to select such kurans as they may deem suitable for fuel reserves. In course of time it is hoped that all kurans naturally adapted to the growth of wood may eventually be planted, and without hindrance to grazing. They should be selected in rotation. After the first year it will probably not be found necessary to exclude cattle. (G. R. No. 3756, dated 6th August 1870.)

3. Government must impress upon all Collectors and Forest Officers the great necessity there is of establishing fuel plantations in the vicinity of large towns. It should be the object of the Forest Department and the local Revenue Officers to utilize in this way every available piece of ground, and the latter should consider it part of their duty to sow and plant with bábul, bambu, or other useful trees the sides of all roads and cart-tracks. The duty of the Forest Officers in this matter is confined to advising the local Revenue Officers, and is not to extend to actual conservation. The work of planting road-side trees of a kind which require fencing and watering can best be done by the Revenue Department through the agency of the village officers; but it should be the special business of the Forest Department to look after other descriptions which do not require special tending. (G. R. No. 5195, dated 17th October 1871.)

4. The duty of Forest Officers should be considered to be confined in such cases as those mentioned in the foregoing order to advising the local Revenue Officers, and should not extend to actual conservation. (G. R. No. 5716, dated 15th November 1871.)

5. It is not the wish of Government that isolated kurans at a distance from large towns should be made over to the Forest Department with a view merely to its receipts being swollen from grazing fees or from the sale of the grass. It is only where the Forest Department intends *bonâ fide* to plant in order to supply the fuel requirements of the country that its claims to the management of kurans in the plain villages will be admitted. (G. R. No. 5190, dated 29th September 1874.)

6. The sale-proceeds of grass from lands under the management of the Forest Department are best collected by the village officers. (G. R. No. 3275, dated 31st June 1879.)

7. The attention of the Government of India has been called by various reports and statistical returns from the Upper Provinces to the growing decrease in the area of grazing lands and wooded tracts in many parts of Upper India. These re-

marks have special reference to the provinces of the Punjáb, the North-West and the Central Provinces inclusive of the Berárs. The grazing land in these provinces has not only diminished in area, but has also deteriorated in quality and changed in character, the latter result being partly due, as will be presently explained, to the excessive grazing which the reduction in area has made necessary. Efforts have been made both by the Local Governments and district officers, especially in the Punjáb, to meet the difficulty; but it appears necessary that more systematic measures and arrangements should be undertaken than have yet been instituted in any province. The Famine Commissioners have not omitted to give prominent notice to the subject in Part II of their Report quoted.

(2). The decrease of the area of culturable waste is a natural consequence of the increasing numbers of the agricultural population, by whom a continually extended area of arable land is required for the plough. The argument, indeed, has been brought forward that the grazing lands and jungles, of which the cattle of the country have been deprived by the encroachments of agriculture, can be profitably and efficiently replaced by fodder crops, and that such has in fact been the case in many countries in which agriculture is more fully developed. But it is doubtful how far it is wise to allow this agreement to be applied at present to the Upper Provinces of India. The one fact that these regions are subject to droughts of a character unknown in the western hemisphere places them on an entirely different footing from those civilised countries with the agricultural system of which we are most familiar. In a season when a failure of the monsoon causes the destruction of crops which supply food for men, those crops also upon which cattle depend are equally liable to perish. It is only in tracts which are thoroughly irrigated that any safe reliance can be placed upon a supply of artificially raised fodder, or that a system of stall-feeding can be expected to preserve the lives of the cattle. Tracts so protected form at the present time a small proportion of the agricultural area of Northern India.

(3). The history of the famines and droughts which have occurred during the present century, and especially in late years, is replete with painful accounts of the wholesale destruction of cattle by starvation and the failure of the fodder supply. It may be doubtful whether the loss which the agricultural population has thus sustained has always been fully appreciated. At a time when they have been deprived by a failure of the rains of a great portion of the produce of one or more seasons, they have also had taken from them, in the destruction of their plough-labour, the means of recouping their loss in succeeding years. The late famine of 1877 has furnished many examples of this kind. Accounts have reached the Government of India of the serious deterioration of the agricultural pros-

perity of many tracts which, there is every reason to believe, would now be in a flourishing condition if the cattle could have been saved. On the other hand, instances have been brought forward in which the existence of a sufficient area of grazing land has, in districts most affected by the drought, both preserved the cattle and secured the agricultural population from prospective loss.

(4). It is desirable at this point to explain that the term 'grazing land' as herein used is not to be restricted to land which provides nothing but the ordinary pasture of a grass plain. Such land is often affected just as seriously by a drought as the unirrigated area of cultivated land. Grazing land is here intended to include those wooded tracts and jungles which provide bushes, trees, and herbs from which cattle can obtain a plentiful supply of fodder, even at times when the grass on open ground is dried up and destroyed. There are many trees and many bushes which, drawing upon a supply of moisture below the surface of the earth, can maintain their life and vigour when the shallow-rooted crops and grasses are parched and withered. And this is not all. It has also been ascertained that the grass itself which, on an exposed surface, would succumb to the drought is, in the cooler atmosphere occasioned by the shade and protection of trees and shrubs, saved from destruction.

As, moreover, there is, apart from the question of fodder, a distinct agricultural advantage in maintaining throughout the plains of Upper India a supply of wood for fuel and domestic purposes, the term used in the following paragraphs of this Resolution to designate grazing lands will be that of fuel and fodder reserves.

(5). A further effect of the absence of proper food after a period of drought is that the cattle, which have been starved for weeks, feed too greedily on the young shoots of the millets that are sown with the first showers of rain or on the coarse grass that springs up on the return of the monsoon. The excess of food to which they have been unaccustomed induces a rapidly fatal disease which has carried off thousands of animals in many parts of India.

(6). Cattle perished in large numbers from want of fodder in the droughts of 1877 and 1880; while, on the other hand, cases have been noted in which they were saved by being fed on bushes and leaves of trees. In Rohtak, for example, no less than 250,000 beasts are said to have died, or about one-half of the whole cattle of the district. This was in 1877. In 1880, 15,000 cattle are reported to have perished in the district of Jhánsi, while many others were only preserved by the bushes in the ravines or by fodder obtained from trees. In the same year, large numbers of cattle were in the Allahabad Division kept alive by being taken to the forest tracts of Banda, while throughout the division all the available trees were stripped of their leaves.

(7). The examples to which reference has now been made are sufficient proof of the necessity of taking some action for the protection of the cattle of the country against drought. The facts brought forward seem to prove that at present the agricultural population will not or cannot themselves take sufficient precautions to provide against exceptional occurrences. They trust to accident or to assistance from the Government. But in this matter little or no help can be afforded unless systematic arrangements are made in advance, and continuously maintained, under which a supply of fodder in a year of drought may be secured. It is necessary, therefore, to consider in what form system and continuity can be most advantageously established; and it is on this point that the Government of India is mainly desirous of obtaining the advice and co-operation of Local Governments.

The general outlines of the scheme which commends itself to the Government of India as most likely to secure the desired results, and which from enquiries already made appears likely to meet with the most general acceptation, will be briefly described in the following paragraphs.

(8). The general control and administration of the measures with which this Resolution is concerned should be primarily in the hands of the local officers, *viz.*, the Commissioner, the District Officer and his subordinates in charge of sub-divisions. The official channel through which the Government would communicate with the Divisional and District Officers would be the Agricultural Department, which would be responsible for providing the Government with advice and information and for maintaining continuous action. The actual management of the lands set apart for the supply of fodder and fuel would be placed in the hands of Forest officials, who alone can be expected to establish and maintain without interruption a scientific system of treatment.

(9). In order to satisfy the above conditions, it would be necessary, in each district or division in which operations are likely to be sufficiently extensive to require scientific management, that an officer of the Forest Department should, when financial circumstances admit of this being done, be placed under the orders of the District or Divisional Officer. He would work entirely under the orders of the Civil Officer, who would, however, refer questions of a professional or technical character for the advice of the Chief Forest Officer of the province or circle. In many districts the necessary staff exists already, but in others new posts will have to be created.

It must not, however, be expected that arrangements can be made, financially or otherwise, under which every district or division can, in every part of the Upper Provinces in which the measures would be useful, be supplied with a separate Forest Officer for the work contemplated. It would indeed be

extremely unwise to enter upon any expensive organization until much more experience and information has been acquired. It is only therefore for those regions in which grazing lands are disappearing at a rapid rate, or in which history has shown that drought causes extensive destruction of cattle, that any application for the services of special officials would at present be entertained. It will probably be considered sufficient if at first a Forest Officer is attached as Assistant to the Commissioner in one or two of the divisions in each province in which protection is most required.

(10). In the meanwhile the serious duty will devolve upon the district officers of ascertaining how far the cattle need protection, and the extent of land, whether the property of Government or purchasable from landowners at a reasonable price, which can be made available for fuel and fodder reserves. For this purpose an analysis of every district should be made by the local officials which will show its need for protection against drought, and the extent to which land is available for fuel and fodder reserves. They may also be directed to enquire how land can be most advantageously secured for the required purposes in districts where a sufficient quantity of Government land is not available, how far the landholders themselves or Local Boards will be able to co-operate with the Government in the matter, and at what cost suitable areas can be procured.

(11). The Agricultural Department will probably at present be most usefully employed in ascertaining by actual experiment, and in consultation with the Forest Department, what are the best means of bringing waste lands into a condition in which they can most economically provide a supply of fodder in a year of drought, and in what way they can in ordinary years be most profitably employed. The Department would also superinted, in correspondence with Commissioners, the analysis required by the preceding paragraph, and would review for the Local Governments the reports received from each Division. The same Department may also ascertain whether any system of stacking hay or storage fodder can be established, or whether it may not be useful to close grazing reserves for a portion of the year, especially when other fodder, such as the stubble of newly reaped crops, is available. For if grass reserves are only thrown open when no other food is available, the grass will have the requisite opportunity to make head, and will thus provide a much more ample supply of fodder than if exposed continually to desultory grazing. Enquiries of this kind will fall within the scope of the Agricultural Department.

(12). This Resolution is not the place in which the treatment of land required for conversion into fuel and fodder reserves can be considered in any detail. But the opportunity is taken to give expression to the opinion of the Government of

India that little real good can be effected unless the reserves are, at any rate for some years, brought under the control of Government and systematically protected against the invasion of goats, cattle, and fire. It appears to be a matter susceptible of proof that a protected area will, besides giving security in a year of drought, afford over a certain number of years a considerably larger amount of fodder than an unprotected area of equal extent. It seems probable that the difference is sufficiently great to admit of a hope that fuel and fodder reserves can, in a large number of instances, be made financially successful. The importance of this view deserves some further examination of the question. The following illustrations may therefore be adduced in support of the view which has now been brought forward. In his Administration Report for 1879-80 the Inspector-General of Forests shows in the following words the results of protecting grazing lands :—

"In all except the most arid tracts, or where denudation has been complete and of long standing, mere protection, aided by sowing and planting in suitable places, has the effect of gradually clothing the ground with trees and shrubs. What appears is this :—the old stumps and roots in the ground produce shoots ; seeds which have been lying in the soil, and seeds brought by the wind, germinate ; the shoots and seedlings, which without protection would have been destroyed by the fire or eaten by the cattle, grow up ; and wherever there are sufficient remains of the old forest growth in the ground the result is most remarkable! The difficulty consists in this—that new reserves must be formed, and that during the first few years this unavoidably entails some restrictions in the matter of grazing. At first the protection of the areas selected must be absolute, and the people in the vicinity can neither be permitted to burn the grass nor graze their cattle in these areas. But the grass which grows up abundantly can be cut, and thus furnishes abundant cattle fodder until the forest is sufficiently advanced to admit of grazing."

(13). In Ajmere the results of enclosing areas, hitherto barren, with the object of securing fodder for cattle in times of drought are already remarkable.

After five years' conservation there is much in these forest reserves to encourage us ; the appearance of the hills and country-side in these tracts is quite altered. The people even have begun to recognize the advantage to be obtained by the experiment we have introduced. We have been blessed with another year of plentiful rainfall ; the undergrowth has become in places in Merwara nearly impenetrable, and in the ravines and valleys I have been surprised to see the number of fine young trees springing up. Our great enemy now is fire.—*Ajmere Forest Report*, 1879-80.

Grazing is strictly prohibited, but the villagers are allowed to cut and carry off the grass on pack animals. The cash receipts are at present small, but the benefits which the people indirectly enjoy from these reserves are very considerable.

(14). Again, in the North-Western Provinces, various experiments have, for three years, been con-

ducted by the Agricultural Department, with the view of reclaiming *usar* or *reh* land, *i.e.* land rendered more or less unculturable by the excess of salts in the soil. It has been found that the simple expedient of enclosure is more efficacious than any other operation. The natural grasses which, so long as the land is accessible to cattle and goats, are nibbled down as fast as the young shoots appear, spread in the enclosed areas at a rapid rate over the worst land. After two years, experimental cuttings gave a result of 20 maunds of good hay per acre—an outturn which on a square mile would suffice to feed 1,000 cattle for three months, exclusive of the bushes and trees which, there is good reason to believe, can be grown when once the grass is well established.

(15). The terrible devastation caused on unprotected land by sheep, and the impossibility of recovering forest and undergrowth once lost so long as the land is exposed to the grazing of sheep, is forcibly brought out in a late report by Mr. Boppe, Inspector of French Forests, on the forests of Scotland. His remarks on the greater value of land for purposes of grazing after enclosure are, in connection with the suggestions made in paragraphs 11 to 13 of this Resolution, especially deserving of notice. The present barren condition of the greater part of the waste lands of Scotland is attributed by Mr. Boppe almost entirely to one animal—the sheep. There is very strong ground for believing that the goat, which may be said to take the place of the sheep in India, has been the one chief cause of the present barrenness of large tracts of country in Northern India.

Extensive areas now bare are known to have been once covered with a rich growth, if not of forest, still of scrub and grass that would, if not destroyed, have formed a rich pasturage; animals may not have been the original cause of the disappearance of the vegetation, but they have been the constant cause which prevents renewed growth. No more striking instance, indeed, of the effect of the natural recovery which ensues when goats and cattle are excluded, can be found than in a comparison between those hills in Ajmere which have for four years only been enclosed, and those which have remained open to goats and cattle during the same term. The first are covered with an almost impenetrable thicket chiefly composed of shoots edible by cattle. The second are practically devoid of all vegetation, and appear to be mere heaps of rock and stone.

(16). If the conclusions indicated by the facts and arguments adduced in the preceding paragraphs can be accepted, the objection which has not unfrequently been brought forward to the occupation of grazing lands on the score of the inconvenience suffered by the adjacent population in being deprived of their cattle pasture, is greatly diminished. The occupation is only temporary. The inconvenience which is temporarily occasioned to the agricultural population is due to

their own action in diminishing the efficiency of their grazing lands by an improper use of them. The Government propose to do no more than restore, and, if possible, to increase the efficiency which has been lost. The measure contemplated will, it is believed, result in a future supply of fodder which will be far larger and far more certain than that of which the owners of the cattle have been deprived. In this view it may be even found desirable to attach for conversion into fuel and fodder reserves, land which has been broken up under the plough, but which as fodder reserves would be more profitable in preserving cattle from starvation, than in growing crops which are subject to failure in a year of drought. (G. I., R. & A., No. 16-A., dated 1st March 1883*; *vide* G. R. No. 2515, dated 28th idem.)

8. The Government of India has had under its consideration the question of the expediency of securing lands near new lines of rail, and especially lands in the vicinity of new railway stations. It has been argued that at the time when a tract of country in which a new line of rail is about to be constructed is brought under preliminary survey, lands adjacent to the alignment might be obtained at rates at which it would probably be impossible to purchase them subsequently, since cases in which the value of land contiguous to railway stations does not rise materially, are probably rare.

The question is deserving of consideration in connection with the establishment of fuel and fodder reserves, and with the provision of areas suitable for the location of camps and the grazing of cattle in time of famine. It is also possible that the reservation of areas on some lines of communication would be useful to the Military authorities as affording suitable depôts and grazing lands for transport animals, and as providing supplies of fodder for cavalry. Under these circumstances the Governor General in Council desires that when any railway project is sanctioned, a report may be submitted to show whether any suitable land is available at cheap rates, and whether, if so, its acquisition is desirable. In most cases in which lands were acquired for fuel and fodder reserves their management would devolve on the Forest Department.

(G. I., R. & A., No. 132 A—50-34, dated 27th November 1885; *vide* G. R. No. 151, dated 11th January 1886.)

9. Although the question dealt with in the circular of the Government of India No. 132 A.—50-34, dated 27th November 1885, arose out of a demand for wood for consumption on a railway, an object which might tend to the greater consumption of fuel, yet it was not intended by the circular that

* The term "fodder" as used in this Resolution is intended to comprise all edible bushes and trees which in years of drought are likely to be of more value than grass and shallow-rooted crops. (G. I., R. & A., No. 53 A—50-3, dated 8th May 1885; *vide* G. R. No. 4432, dated 3rd June 1885.)

such should be considered as the main or indeed as a necessary object of the occupation by Government of lands near railway stations. The maintenance of such reserves was commended chiefly in consideration of their utility in the event of drought, when they might be expected to furnish a supply of fodder, whether in the form of grass or of shrubs and trees, utilizable as food for cattle, or again in time of war or other military emergency, when they would, from their position on the railway, be a convenient source from which fodder (or fuel) could be exported for military purposes. (G. I., R. & A., No. 588-F., dated 30th June 1887; *vide* G. R. No. 4955, dated 25th July 1887.)

10. The objects of forming fuel and fodder reserves along lines of railway are two-fold. The first is to secure for Government any easily available land of which the value may, in future years, be considerably enhanced by its proximity to the railway. The second, to establish on any such tracts, until required for other more necessary purposes, a supply of fuel and fodder, which may be easily transported to centres where it may be useful to the Military or Civil authorities.

It will be easier to give effect to the scheme on new or projected railways, especially the latter, than on older lines; and the Director of Land Records and Agriculture should make a review of all suitable lands available for the purpose along recently constructed or newly projected lines, and require maps to be provided of any plots of which the acquisition may be considered desirable. Some misconception has existed in more than one province as to the character of a fodder reserve. It is presumed that a grass tract would afford no material supply of fodder in a year of drought, and would be equally liable to failure as an ordinary fodder crop on dry land. Such would be the case if grass alone were grown. But if fodder trees and bushes were encouraged, these would not only themselves withstand a drought, in consequence of the deeper roots drawing moisture from below the parched surface, but they would also protect a considerable portion of grass under their shade.

A brief statement of the measures taken in accordance with the above recommendations should be included in each Annual Report of the Department of Land Records and Agriculture. (G. I., R. & A., No. 22-F., dated 11th October 1888; *vide* G. R. No. 7518, dated 12th November 1888.)

11. Railway administrations should co-operate with the Local Directors of Land Records and Agriculture with reference to the formation of fuel and fodder reserves along lines of railway, and render any assistance in their power in dealing with this question. The Director of Land Records and Agriculture should be kept informed by the Public Works Department, Railway, of any new railway projects that may be undertaken in future

with a view to enable him to prospect the land for fuel reserves and to make any proposals which may appear feasible and likely to give a good return. (G. I., P. W. D., No. XI (Railway), dated 5th September 1888; *vide* G. R., P. W. D. (Railway), No. 2033, dated 2nd October 1888; and G. R. No. 715, dated 28th January 1889.)

12. In their Resolution No. 16-A, dated 1st March 1883, the Government of India asked for the advice and co-operation of Local Governments as to the action which should be taken for the better protection of the cattle of the country during seasons of drought, and at the same time indicated the general outlines of the scheme which appeared most likely to secure the desired result.

(2). This scheme, while seeking to encourage the people to store more carefully the grasses produced in their fields, and, where possible, to store hay, had for one of its principal objects the extended growth and reproduction of the fodder trees and bushes on which Indian cattle are so largely dependent for food-supply in years of scarcity. The question was asked whether, in some cases, land could not be purchased for the above purpose, and information was called for which would indicate how far the cattle in each district required protection, the extent of waste land available, and the best means of managing any land which could be set apart for the purpose.

(3). The Government of India are convinced, from a perusal of the reports received, that the subject deserves to be further analysed, and studied in greater detail, before it is safe to draw any final conclusions.

(4). The lands of each province may, for the purpose of this Resolution, be ranged under three classes, *viz.*:—

1. Cultivation.
2. { Pastures. / Fodder reserves.
3. Forests, properly so called.

(5). The Government of India accept the proposition that no impediment should be offered to the extension of permanent cultivation wherever the welfare of the agricultural communities demands it. It is only in cases in which the expansion of arable land is less profitable or—unless protected by a sufficient area of pastures, fodder reserves and forests—is unsafe, that restriction is required. While it is true that in some richly irrigated tracts no grazing or fodder reserves and but few forests are required, and that it is more profitable to grow what food the cattle may require in the cultivated fields and to import timber and other forest produce needed by the population, it is equally true that in other less favoured localities the profitable continuance of agriculture depends upon the existence of grazing lands, of fuel and fodder reserves, or forests.

(6). It must first be considered to what extent "pastures," "fodder reserves," and "forests" are required in each locality in order to meet public wants and to secure the proper protection of agriculture or the full efficiency of agricultural operations; and an analysis of each district should be made in special regard to this question.

(7). The next question is that of the management of areas brought under treatment in each class. The general principle which applies to all of them is that they should be permanently maintained in such manner as to provide a maximum benefit to the adjacent population at a minimum cost to the State. Their management must, therefore, be conducted on mercantile principles, so far as these are consistent with full regard to proved and acknowledged rights. With this proviso, the produce of the areas taken under management should be disposed of at market rates to be fixed from time to time with due consideration of the local demand and supply, and any other circumstances affecting the value of the produce.

(8). By *pastures* are meant grazing lands from which cattle, including sheep and goats, are not to be otherwise than temporarily excluded, but which are to be brought under a definite system of management. What that system should be is a question which requires enquiry and perhaps experiment in each locality.

In some cases it may be found necessary to close lands selected as pastures against grazing during part of the year, opening them only when the annually recurring scarcity of fodder begins: in others a longer period will be required for the recovery of the grass, while in certain tracts it may be found expedient to divide the pasture lands into blocks, opened in rotation, in which the number of cattle admitted will be restricted in accordance with the supply of grass by the imposition of sufficiently high grazing fees or otherwise.

The methods to be adopted will, however, vary from district to district, and the Government of India are content at present with an expression of their desire that an investigation should be set on foot and continuously maintained, and that the responsible authorities should not, on the recurrence of a fodder famine in any district or tract, be exposed to a charge that the requirements of the locality, in connection with the maintenance of a fodder supply, had not been seriously investigated and considered in each case. It is hardly necessary to add that the system of management should be such as to exclude, as far as possible, all interference on the part of subordinate officers.

(9). *Fodder Reserves* are lands in which, while the yield of grass is improved, the growth of fodder other than grass—*e.g.*, bushes and trees edible by cattle—is promoted, and which must, for the attainment of this object, be, except in years of great

drought, absolutely closed against grazing, the fodder being cut and collected. Their future treatment requires observation and study.

The advantages of such reserves are that, under proper treatment, the average supply of fodder, whether in the form of plants, trees or grasses, is larger than under the system of open grazing; that a judicious system of supplying leaves and lopped branches to cattle will maintain a continually increasing supply of fodder without injuring the bushes or trees; that the grasses will, in the form of hay or cut fodder, produce annually more food than if grazed during the period of growth; that in years of extremity, when cattle are admitted to the reserves, fodder bushes and trees, being able to withstand long-continued drought, afford a supply of food upon which the cattle can fall back when grasses and more shallow-rooted plants are burnt up by the heat; and, finally, that the grasses themselves will be cut and stacked so as to form a store of food when the growing vegetation in the open grounds has been exhausted.

(10). By *forests* proper are meant lands which have been set apart primarily either for the production of timber, fuel, and the other products of tree-growth, or for the protection of hillsides, but forests may also be constituted and maintained for other cognate purposes connected with the public welfare. In many cases their importance is felt beyond their immediate neighbourhood, within such limits as it is possible to transport timber or other trade-products from them with profit; but they may also serve to supply the surrounding agricultural population with fuel, small building and other wood, grass, and minor produce, and in some cases with grazing lands. It is important that, consistently with a rational treatment under which they fulfil the primary object for which they were set apart, forests should be made to supply the needs of the adjacent residents to the utmost extent.

(11). The enquiries and investigations called for under this Resolution form part of the agricultural analysis which, in the 9th and 10th paragraphs of Resolution No. 6—340-50-G., dated 8th December 1881, Agricultural Departments were required to institute. It was there laid down that Agricultural Departments should, district by district, ascertain the causes which, especially in years of drought, had tended to interfere with "agricultural efficiency," and that, when those causes had been ascertained, remedies should be suggested and, where possible, provided. The instructions contained in the paragraphs above quoted have not in some provinces been sufficiently understood or carried into effect, and the Government of India take this opportunity of requesting that a serious commencement may now be made by Agricultural Departments in setting on foot in each district, in communication with Revenue and Forest officials, the agricultural analysis contemplated in the Resolution of 1881, so

far as it includes the provision of an adequate grazing and fodder supply.

(12). The question of increasing the area of wooded land, in connection with the general improvement of agriculture and the increase of the manure supply, is one which it will be necessary to bring under further discussion on receipt of the final report from Dr. Voelcker, the Consulting Chemist to the Royal Agricultural Society of England. In the meantime, attention is directed to the remarks on the subject contained in Dr. Voelcker's Preliminary Report, which was distributed with Circular No. 2—26-4-A., dated 30th January 1891.

(13). It is, in the opinion of the Government of India, advisable for convenience of administration that all lands set apart for special treatment as pastures, fodder reserves or forests proper should, so far as the law permits, be placed under the forest law as "Reserved Forest;" but it should be understood that it is not necessary that, because an area is constituted a reserved forest, it must be managed for the purpose of producing trees or placed under the control of the officers of the Forest Department. The method of treatment of such lands and the arrangement of their control must be regulated entirely by the local authorities, with whom remains also the power of determining the agency and system of management.

(G. I., R. & A., No. 17-105, dated 15th July 1891; *vide* G. R. No. 6840, dated 5th October 1891.)

The forest policy of the Government of India has assumed a fresh development of considerable importance. The necessity of dividing off areas into classes, and of according a different method of treatment to each class, is recognized. The division contemplated is—

(*a*) pastures, or grazing lands, from which cattle, including sheep and goats, are not to be otherwise than temporarily excluded, and in regard to which the system of management is to be such as will exclude, as far as possible, all interference on the part of subordinate officers;

(*b*) fodder reserves which, except in years of great drought, are to be absolutely closed against grazing, the fodder produced being cut and collected;

(*c*) forests proper, *i.e.* lands set apart primarily for the production of timber, fuel, and the other products of tree-growth, but which may also serve to supply the surrounding agricultural population with fuel, small building and other wood, grass and minor produce, and in some cases with grazing lands. Attention is drawn to the importance of making forests proper supply the needs of adjacent residents to the utmost extent possible, consistent with a rational treatment, under which they will fulfil the primary object for which they were set apart; and in paragraph 13 words of caution are added that "it should be

understood that it is not necessary that because an area is constituted a reserved forest, it must be managed for the purpose of producing trees, or be placed under the control of the officers of the Forest Department."

In calling thus particularly the attention of the Revenue and Forest Officers to the above orders, the Governor in Council is pleased to direct that they should make for each district the analysis* mentioned in paragraph 6 of the Government of India Resolution No. 17-105, dated 15th July 1891, and they should† divide the areas included in reserved forests into the three classes contemplated. The best way to do this is that they should, in consultation, first select and set apart lands for treatment as *forests proper* as described in paragraph 10 of the Resolution. They should then proceed to divide the rest between 'Pastures' and 'Fodder Reserves.' The Governor in Council regards this as a very important piece of work, and one which demands the most careful attention of all district officers. If the division and classification of forest areas are wisely carried out, and if pastures are managed mainly and primarily for the support and therefore the production of stock, and not with the main object of producing revenue from grazing fees, Government believe that much of the unpopularity that now rests on forest arrangements will be removed. The beneficial effect of these orders will be nullified, if areas which could only produce a saleable growth of underwood by protracted closure, but which are really required for grazing purposes, are included in *forests proper*. Each class of forest land should be specially treated for the purpose it is intended to serve, and a minimum of interference by subordinate officers with the areas set apart for pastures or grazing lands, and with the people using them, should be enforced.

As regards the question of management of pastures and fodder reserves raised in this Resolution, the Governor in Council desires that the views set forth in paragraph 9 of Government of India Resolution No. 16-A., dated 1st March 1883, should be fully adopted in this Presidency. The position of the Conservators should be that set forth therein. They should be consultative officers, who would give their advice and opinions on questions of professional and technical character referred to them by the Collectors and Commissioners, but they should not attempt to direct or control district officers of the Revenue or Forest Departments in the performance of their duties of management. In that matter

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* Proposals to deal with out-forest lands and protected forests are not to be dealt with in the analysis called for. The area to be divided into classes is that *included in Reserved Forest*. (G. R. No. 8396, dated 5th December 1891.)

† The Commissioner in Sind reported in his memorandum No. 1424, dated 5th April 1892, that there was nothing special to be done in Sind in the direction of separating pastures and fodder reserves in reserved forests. (G. R. No. 3994, dated 7th May 1892.)

there should be no division of responsibility, and the system of management should be that described in paragraph 9 of the Government of India Resolution No. 16-A., dated 1st March 1883.

(G. R. No. 6840, dated 5th October 1891.)

13. Copies of the following Resolution of the Government of India, No. 22-F., dated 19th October 1894, containing the latest pronouncement of that Government on the subject of forest classification and administration were forwarded to all Commissioners, Collectors, and Conservators of Forests for information and guidance :—

"In Chapter VIII of his Report on the Improvement of Indian Agriculture, Dr. Völcker dwells at length upon the importance of so directing the policy of the Forest Department that it shall serve agricultural interests more directly than at present; and in his Review of Forest Administration for 1892-93, the Inspector-General of Forests discusses in some detail the principles which should underlie the management of State forests in British India. While agreeing generally with the principles thus enunciated by the Inspector-General of Forests, the Government of India think that it will be convenient to state here the general policy which they desire should be followed in this matter, more especially as they are of opinion that an imperfect apprehension of that policy has, in some recent instances, been manifested.

"2. The sole object with which State forests are administered is the public benefit. In some cases the public to be benefited are the whole body of tax-payers; in others, the people of the tract within which the forest is situated; but in almost all cases the constitution and preservation of a forest involve, in greater or less degree, the regulation of rights and the restriction of privileges of user in the forest area which may have previously been enjoyed by the inhabitants of its immediate neighbourhood. This regulation and restriction are justified only when the advantage to be gained by the public is great; and the cardinal principle to be observed is that the rights and privileges of individuals must be limited, otherwise than for their own benefit, only in such degree as is absolutely necessary to secure that advantage.

"3. The forests of India, being State property, may be broadly classed under the following headings :—

(*a*) Forests the preservation of which is essential on climatic or physical grounds.

(*b*) Forests which afford a supply of valuable timbers for commercial purposes.

(*c*) Minor forests.

(*d*) Pasture lands.

"It is not intended that any attempt should be made to class existing State forests under one or

other of these four heads. Some forests may occupy intermediate positions, and parts of one and the same forest may fall under different heads. The classification is useful only as affording a basis for the indication of the broad policy which should govern the treatment of each class respectively; and in applying the general policy, the fullest consideration must be given to local circumstances.

'4. The first class of forests are generally situated on hill slopes, where the preservation of such vegetation as exists, or the encouragement of further growth, is essential to the protection from the devastating action of hill torrents of the cultivated plains that lie below them. Here the interests to be protected are important beyond all comparison with the interests which it may be necessary to restrict; and so long as there is a reasonable hope of the restriction being effectual, the lesser interests must not be allowed to stand in the way.

"5. The second class of State forests include the great tracts from which our supply of the more valuable timbers—teak, sál, deodar, and the like—is obtained. They are for the most part (though not always) essentially forest tracts and encumbered by very limited rights of user; and when this is the case, they should be managed mainly on commercial lines as valuable properties of, and sources of revenue to, the State. Even in these cases, however, customs of user will for the most part have sprung up on the margins of the forest; this user is often essential to the prosperity of the people who have enjoyed it; and the fact that its extent is limited in comparison with the area under forest renders it the more easy to continue it in full. The needs of communities dwelling on the margins of forest tracts consist mainly in small timber for building, wood for fuel, leaves for manure and for fodder, thorns for fencing, grass and grazing for their cattle, and edible forest products for their own consumption. Every reasonable facility should be afforded to the people concerned for the full and easy satisfaction of these needs, if not free (as may be possible where a system of regular cuttings has been established), then at low and not at competitive rates. It should be distinctly understood that considerations of forest income are to be subordinated to that satisfaction.

"There is reason to believe that the area which is suitable to the growth of valuable timber has been over-estimated, and that some of the tracts which have been reserved for this purpose might have been managed with greater profit both to the public and to the State, if the efforts of the Forest Department had been directed to supplying the large demand of the agricultural and general population for small timber rather than the limited demand of merchants for large timber. Even in

tracts of which the conditions are suited to the growth of large timber, it should be carefully considered in each case whether it would not be better, both in the interests of the people and of the revenue, to work them with the object of supplying the requirements of the general, and in particular of the agricultural population.

"6. It should also be remembered that, subject to certain conditions to be referred to presently, the claims of cultivation are stronger than the claims of forest preservation. The pressure of the population upon the soil is one of the greatest difficulties that India has to face, and that application of the soil must generally be preferred which will support the largest numbers in proportion to the area. Accordingly, wherever an effective demand for culturable land exists, and can only be supplied from forest areas, the land should ordinarily be relinquished without hesitation; and if this principle applies to the valuable class of forests under consideration, it applies *à fortiori* to the less valuable classes which are presently to be discussed. When cultivation has been established, it will generally be advisable to disforest the newly-settled area. But it should be distinctly understood that there is nothing in the Forest Act, or in any rules or orders now in force, which limits the discretion of Local Governments without previous reference to the Government of India (though, of course, always subject to the control of that Government) in diverting forest land to agricultural purposes, even though that land may have been declared reserved forest under the Act.

"7. Mention has been made of certain conditions to which the application of the principle laid down in the preceding paragraph should be subject. They have for their object the utilization of the forest area to the greatest good of the community. In the first place, the honey-combing of a valuable forest by patches of cultivation should not be allowed; as the only object it can serve is to substitute somewhat better land in patches for sufficiently good land in large blocks, while it renders the proper preservation of the remaining forest area almost impossible. The evil here is greater than the good. In the second place, the cultivation must be permanent. Where the physical conditions are such that the removal of the protection afforded by forest growth must result, after a longer or shorter period, in the sterilization or destruction of the soil, the case falls under the principle discussed in paragraph 4 of this Resolution. So again a system of shifting cultivation, which denudes a large area of forest growth in order to place a small area under crops, costs more to the community than it is worth, and can only be permitted, under due regulation, where forest tribes depend on it for their sustenance. In the third place the cultivation in

question must not be merely nominal, and an excuse for the creation of pastoral or semi-pastoral villages, which do more harm to the forest than the good they reap from it. And in the fourth place, cultivation must not be allowed so to extend as to encroach upon the minimum area of forest which is needed in order to supply the general forest needs of the country, or the reasonable forest requirements, present and prospective, of the neighbourhood in which it is situated. In many tracts cultivation is practically impossible without the assistance of forests, and it must not be allowed to destroy that upon which its existence depends.

"8. It has been stated above that the forests under consideration are generally, but not always, free from customs of user. When, as sometimes happens, they are so intermingled with permanent villages and cultivation that customary rights and privileges militate against their management as revenue-paying properties, the principles laid down at the end of paragraph 5 of this Resolution should be observed, and considerations of income should be made secondary to the full satisfaction of local needs. Such restrictions as may be necessary for the preservation of the forest, or for the better enjoyment of its benefits, should be imposed; but no restriction should be placed upon reasonable local demands, merely in order to increase the State revenues.

"9. The third class of forests include those tracts which, though true forests, produce only the inferior sorts of timber or the smaller growths of the better sorts. In some cases the supply of fuel for manufactures, railways, and like purposes, is of such importance that these forests fall more properly under the second class, and must be mainly managed as commercial undertakings. But the forests now to be considered are those which are useful chiefly as supplying fuel and fodder or grazing for local consumption; and these must be managed mainly in the interests of the population of the tract which supplies its forest requirements from this source. The first object to be aimed at is to preserve the wood and grass from destruction; for user must not be exercised so as to annihilate its subject, and the people must be protected against their own improvidence. The second object should be to supply the produce of the forests to the greatest advantage and convenience of the people. To these two objects all considerations of revenue should ordinarily be subordinated.

"10. It must not be supposed from the preceding remarks that it is the intention of the Government of India to forego all revenue from the large areas that are valuable chiefly for the fuel and fodder which they yield. Cases must be distinguished. Where the areas in question afford the only grazing and the only supply of

fuel to villages which lie around or within them, the necessities of the inhabitants of these villages must be treated as paramount, and they should be satisfied at the most moderate rates, and with as little direct official interference as possible. But where the villages of the tract have already ample pasture grounds attached to their cultivation and owned and managed by themselves, and where the Crown lands merely supplement these pastures, and afford grazing to a nomad pastoral population, or to the herds that shift from one portion of the country to another with the changes of the season, Government may justly expect to reap a fair income from its property. Even in such cases, however, the convenience and advantage of the graziers should be studiously considered, and the inhabitants of the locality, or those who habitually graze over it, should have a preferential claim at rates materially lower than might be obtained in the open market. It will often be advantageous to fix the grazing demand upon a village or a nomad community for a year or a term of years. The system, like every other, has difficulties that are peculiar to it; but it reduces the interference of petty officials to the lowest point, and minimizes their opportunities for extortion and oppression. Where grazing fees are levied *per capita*, free passes are often given to a certain number of cattle. In such cases the cattle which are to graze free should include, not only the oxen which are actually employed on the plough, but also a reasonable number of milch cattle and calves. A cow or a buffalo is as much a necessity to a cultivator, using the word necessity in a reasonable wide sense, as is a plough-bullock; and in many parts the oxen are bred in the village.

"11. In the portions of his Report which are referred to in the preamble to this Resolution Dr. Völcker strongly recommends the formation of fuel and fodder preserves, and the Government of India has repeatedly urged the same policy upon Local Governments. The question whether any particular area can be made to support a greater number of cattle by preserving the grass and cutting it for fodder, or by permitting grazing upon it, is one that must be decided by the local circumstances of each case. But when it has been decided, the issues are by no means exhausted. It has been stated in paragraph 9 above that one main object towards which the management of these minor forests should be directed is, the supply of fuel and fodder 'to the greatest advantage and convenience of the people.' In doing so, due regard must be had to their habits and wishes. It may be that strict preservation and periodical closures, or the total prohibition of grazing, will result in the largest yield both of fuel and of fodder in the form of hay. But that is of small avail if the people will

not utilize the increased supply in the form in which it is offered them. The customs of generations alter slowly in India; and though much may and should be done to lead the people to their own profit, yet it must be done gently and gradually, always remembering that their contentment is no less important an object than is their material advantage. It must be remembered, moreover, that the object of excluding grazing from the preserves in question is the advantage of the *neighbourhood*; and that the realization of a larger income than grazing would yield, by preserving the produce, only to sell it to the highest bidder for consumption in large towns at a distance from the preserve, is *not* always in accordance with the policy which the Government of India has inculcated. Here again circumstances must decide. It may be that the local supply of fuel or fodder, independently of the reserved area, is sufficient in ordinary years for the needs of the neighbourhood. In such a case the produce may legitimately be disposed of in such years to the greatest advantage, reserving it for local consumption only when the external supply runs short. Finally, the remarks regarding agency in paragraph 12, and the more general considerations that are discussed below in paragraph 13 of this Resolution, apply in full force to areas thus preserved for the supply of fuel and fodder.

"12. The fourth class of forests referred to are pastures and grazing grounds proper, which are usually forests only in name. It is often convenient, indeed, to declare them forests under the Act, in order to obtain a statutory settlement of the rights which the State on the one hand and private individuals or communities on the other possess over them. But it by no means follows, as a matter of course, that these lands should be subjected to any strict system of conservation, or that they should be placed under the management of the Forest Department. The question of agency is purely one of economy and expediency; and the Government of India believe that in some cases where these lands are managed by the Forest Department, the expenditure on establishment exceeds the revenue that is, or at any rate the revenue that ought to be, realized from them.

"The following remarks apply, not only to forest lands under the Act, whether administered by the Forest Department or not, but also to all Crown waste, even though not declared to be forest. Here the interests of the local community reach their maximum, while those of the general public are of the slightest nature. It follows that the principles which have been already laid down for the management of minor forests apply, if possible, with even greater force to the management of grazing areas pure and simple.

"13. The difficulties which arise in connection with these areas are apt to present themselves in their most aggravated form where the tenure of land is rayatwari. In zamindári tracts the Crown lands generally assume the second of the two forms indicated in paragraph 10 of this Resolution. But where the settlement is rayatwari, every survey number or field that is unoccupied or unassigned is in the possession and at the disposal of Government, and trespass upon it is *primâ facie* forbidden. In some cultivated tracts, these unoccupied and waste lands are the only source available from which the grazing requirements of the resident population can be met. The Government of India are clearly of opinion that the intermixture of plots of Government land which are used for grazing only, but upon which trespass is forbidden, with the cultivation of occupancy or propietary holders is apt to lead to extreme abuses, and especially so when these plots are under the management of the Forest Department. The inferior subordinates of the Forest Department are perhaps as reliable as can be expected on the pay which we can afford to give; but their morality is no higher than that of the uneducated classes from which they are drawn; while the enormous areas over which they are scattered and the small number of the controlling staff render effective supervision most difficult. It is not right, in order to protect the grass or the grazing dues on plots of waste scattered over the face of a cultivated district, to put it into the power of an underling to pound or threaten to pound cattle on the plea that they have overstepped the boundary between their owner's field and the next. Still less right is it to permit the exercise of the power of compounding offences allowed by Section 67 of the Forest Act to depend upon the mere report of a subordinate servant, or to expose him to the temptations which such a power holds out. Where the interests involved are sufficiently important, it may perhaps be necessary to accept the danger of extortion while minimizing as far as possible the opportunities for it. But in the case under consideration the interests involved are trifling, while the opportunities are unlimited.

"14. It is to be distinctly understood that the Government of India do not desire that grazing should be looked upon primarily as a source of income. But it by no means follows that all revenues from scattered Government lands should be relinquished. It is, indeed, inadvisable that this should be done, as to do so would give the rayats an interest in opposing allotment and making things unpleasant for new occupants. But the objections to direct management which have just been pointed out are reduced to a minimum or altogether avoided, when the management is placed in hands of the resident cultivators or of representatives from among

them. It will generally be possible to lease or otherwise manage the unoccupied lands of a village through the agency of the community; not, indeed, at the highest price which they are ready to pay to escape such evils as have just been alluded to, but at a moderate estimate of their value to them, fixed in view of the fact that herds and flocks, which cannot exist without grazing, are often a necessary condition of the successful conduct of that cultivation upon which the Government land-revenue is paid. In no case should fields that have been relinquished be let to outsiders at a reduced assessment for grazing purposes, for then we might have speculators taking up such fields mainly in order to make what they can out of trespassing cattle.

"15. One more point of principle remains to be noticed. The procedure under Chapter IV of the Indian Forest Act, whereby forests are declared to be protected, has been in certain cases regarded by the Government of India as a provisional and intermediate procedure, designed to afford time for consideration and decision, with the object of ultimately constituting so much of the area as it is intended to retain, a reserved forest under Chapter II, and of relinquishing the remainder altogether. The Act provides two distinct procedures. By the more strict one, under Chapter II, existing rights may be either settled, transferred or commuted; and this procedure will ordinarily be applied to forests of the first and second classes indicated in paragraph 3 of this Resolution. By the second procedure, under Chapter IV, rights are recorded and regulated; and this procedure will often be properly followed where the rights to which the area is subject are extensive, and the forest is to be managed mainly in the interests of the local community. It will ordinarily be applied to forests of the 3rd and 4th classes. This second procedure may, indeed, be provisional, and introductory to reservation under Chapter II; but there is in the Forest Act nothing repugnant to giving it a larger and even a permanent operation. As regards Government, the chief difference between the two procedures is, that new rights may spring up in a protected, but not in a reserved forest, and that the record-of-rights framed under Chapter II is conclusive, while that framed under Chapter IV only carries a presumption of truth. It is believed that this presumption offers ample security where the object of regulating the rights is to provide for their more beneficial exercise rather than to override them in the public interest. As regards the people, the chief difference is that, speaking broadly, in a reserved forest everything is an offence that is not permitted, while in a protected forest nothing is an offence that is not prohibited. In theory it is possible so to frame the permission and the prohibition as to make the results identical in the

two cases; but in practice it is almost impossible to do so. If it were not so, the distinction drawn by the Legislature would be unnecessary and meaningless. It is only where the public interests involved are of sufficient importance to justify the stricter procedure and the more comprehensive definition of forest offences, that the latter should be adopted.

"The Governor-General in Council desires, therefore, that with regard both to fuel and fodder preserves, and to grazing areas pure and simple, and especially to such of them as lie in the midst of cultivated tracts, it may be considered in each case whether it is necessary to class them, or, if already so classed, to retain them as forest areas; and if this question is decided in the affirmative, whether it would not be better to constitute them protected rather than reserved forests.

"16. Such are the general principles which the Government of India desire should be observed in the administration of all State forests in British India. They are fully aware that the detailed application of these principles must depend upon an infinite variety of circumstances which will have to be duly weighed in each case by the local authorities, to whose discretion the decision must be left. One of the dangers which it is most difficult to guard against is the fraudulent abuse of concessions for commercial purposes; and only local considerations can indicate how this can best be met. The Government of India recognize the fact that the easier treatment in the matter of forest produce which His Excellency in Council desires should be extended to the agricultural classes may, especially in the case of true forest areas, necessitate more careful supervision in order that the concession may be confined within its legitimate limits. But, on the other hand, they think that in some provinces it will render possible a considerable reduction of existing establishment; and they desire that this matter may be carefully considered with reference to what has been said above in paragraph 12. They know also that in some provinces forest policy is already framed on the lines which they wish to see followed in all. But the Governor-General in Council believes that Local Governments and Administrations will be glad to receive the assurance now given them, that the Supreme Government will cordially support them in recognizing and providing for local requirements to the utmost point that is consistent with Imperial interests. Where working plans or plans of operation are framed for forests, the provisions necessary for this purpose should be embodied in them. The exercise of the rights that have been recorded at settlement will necessarily be provided for in these plans. Where further concessions are made by way of privilege and grace, it will be well to grant them for some such limited period as ten years, so that they may,

if necessary, be revised from time to time, as the circumstances on which they were moulded change."

(G. R. No. 9605, dated 23rd November 1894.)

14. The principles laid down in paragraph 6 of the Resolution of the Government of India, No. 22-F., dated 19th October 1894, that subject to certain conditions "the claims of cultivation are stronger than the claims of forest preservation" and that "wherever an effective demand for culturable land exists and can only be supplied from forest areas, the land should ordinarily be relinquished without hesitation" must be acted upon to the fullest extent. Land fit for cultivation is almost always more profitable to the State and more useful to the community when under cultivation then when under forest, and the demand for it should be met, unless it is so situated that its occupation would be prejudicial to the conservancy of valuable forests, or that the soil when loosened would be liable to be washed away by rain, or some other special reason makes it expedient to retain it within the forest area. In many cases plots of cultivable land within the demarcation line could be with great advantage given out for occupation on condition of the holders watching the surrounding forests, and the Governor in Council will be glad to have this method of securing resident guards tried as far as possible. Until a demand arises for any of the land in question, there is some advantage and no disadvantage in its being subject to the provisions of the Forest Act. When the demand does arise, disforestment involves no difficulties, but the need of applying for it ensures separate and consequently more careful consideration being given to the several cases.

(2). All forests proper, whether they yield timber or firewood or consist merely of scrub jungle protecting the slopes of hills, must of course remain under the management of the Forest Department. That Department should also have charge of all fuel reserves or mixed fuel or fodder reserves except such as are so far removed from the forests proper that the superior officers could not exercise effectual supervision without prejudice to more important duties. There are, however, few works of greater utility than the production of firewood and small timber within localities in which they are in great demand. The production of grass does not require the services of a scientific department, and pure fodder reserves should be in the charge of the Revenue Department. It must be remembered that the produce of all these reserves must be devoted primarily to the supply of local wants at reasonable rates, and only the surplus after these wants are fully met may be exported. As regards the areas classed as pasture, the Governor in Council sees no reason to depart from the view which is indicated in Government Resolution No. 6702, dated 15th September 1893, which is favoured by the Gov-

ernment of India in paragraph 12 of their Resolution No. 22-F., dated 19th October 1894, and which has already been carried out in several districts, and he is indeed fully convinced that the transfer of these areas to the management of the Revenue Department is the only effectual method of remedying an evil too long continued.

(3). Opportunity will be given to the Forest Department to convert into either forest proper or fuel reserves any parts of the pasture-area which are suitable for the purpose, provided there remains a sufficient area open for pasture. The Collector's assent will, however, be necessary to all such undertakings and it will be given only if he is satisfied that the condition above provided for is fulfilled and also that the Department has the means of making the closure effective. The area must be fenced wherever it is exposed to trespass, and resident guards must be provided. There must be resident guards to watch the fencing, and they can be simultaneously employed in planting and sowing and other operations for the afforestation of the plots, or in cutting and stacking the grass. Government will be prepared, on being satisfied that the measures for closing any such area are efficient, to authorize the levy of pound fees on the maximum scale for trespass in it, and do not doubt that Magistrates will inflict exemplary punishments when they see that they are dealing with deliberate violations of a reasonable law reasonably applied. It may be hoped that by successful operations under such conditions the population generally will learn to appreciate the benefits of forest conservancy.

(G. R. No. 1668, dated 8th March 1898.)